

IN THE CLAIMS:

1.-18. (Cancelled)

19. (Previously Presented) A fusion device for facilitating arthrodesis in a disc space between adjacent vertebrae, comprising:

an elongate body having a length and defining external threads extending substantially entirely along said length, said elongate body including opposite outer walls that are substantially continuously tapered along said length so as to define a taper angle therebetween with said outer walls disposed entirely within said taper angle to maintain the adjacent vertebrae in an angular relationship relative to one another when said elongate body is implanted within the disc space, said elongate body at least partially formed of a porous biocompatible material to permit bone tissue ingrowth into said elongate body.

20. (Previously Presented) A fusion device for facilitating arthrodesis in a disc space between adjacent vertebrae, comprising:

an elongate body having a length and defining external threads extending substantially entirely along said length, said elongate body being substantially continuously tapered along said length and at least partially formed of a porous biocompatible material to permit bone tissue ingrowth into said elongate body, said porous biocompatible material being a composite comprising an open-celled substrate having interconnected porosity, said open-celled substrate infiltrated with a metal.

21. (Previously Presented) The fusion device of claim 20, wherein said open-celled substrate is a carbonaceous material.

22. (Previously Presented) The fusion device of claim 20, wherein said open-celled substrate is a carbon foam.

23. (Previously Presented) The fusion device of claim 20, wherein said metal comprises a group VB metal.

24. (Previously Presented) The fusion device of claim 23, wherein said metal is tantalum.

25. (Previously Presented) The fusion device of claim 19, wherein said porous biocompatible material has a modulus of elasticity approximately equal to a modulus of elasticity of human bone.

26. (Cancelled)

27. (Currently Amended) ~~The fusion device according to claim 26, wherein~~ A fusion device for facilitating arthrodesis in a disc space between adjacent vertebrae, comprising:
an elongate body having a length and defining external threads extending substantially entirely along said length, said external threads being circumferentially interrupted by a pair of oppositely disposed truncated side walls to define a pair of threaded arcuate side walls extending along said length, said pair of threaded arcuate side walls are tapered along a substantial portion of said length of said elongate body, said elongate body at least partially formed of a porous biocompatible material to permit bone tissue ingrowth into said elongate body.

28. (Currently Amended) The fusion device according to claim ~~26~~ 27, wherein said elongate body defines a hollow interior, said pair of threaded arcuate side walls each defining at least one opening extending therethrough in communication with said hollow interior.

29. (Previously Presented) The fusion device according to claim 28, further comprising a bone growth inducing material disposed within said hollow interior.

30. (Previously Presented) The fusion device according to claim 19, wherein said

elongate body has a substantially solid configuration.

31. (Previously Presented) A fusion device for facilitating arthrodesis in a disc space between adjacent vertebrae, comprising:

an elongate body having a length and defining external threads extending substantially entirely along said length, said elongate body having a first diameter adjacent a first end thereof and a larger second diameter adjacent an opposite second end thereof, said elongate body including opposite outer walls that are substantially continuously tapered between said first and second ends so as to define a taper angle therebetween with said outer walls disposed entirely within said taper angle to maintain the adjacent vertebrae in an angular relationship relative to one another when said elongate body is implanted within the disc space, said elongate body at least partially formed of a porous biocompatible material to permit bone tissue ingrowth into said elongate body.

32. (Previously Presented) A fusion device for facilitating arthrodesis in a disc space between adjacent vertebrae, comprising:

an elongate body having a length and defining a hollow interior, said elongate body including an outer wall that is substantially continuously tapered along said length and defining at least one opening therethrough in communication with said hollow interior, said elongate body being at least partially formed of a porous biocompatible material to permit bone tissue ingrowth into said elongated body.

33. (Previously Presented) The fusion device according to claim 32, further comprising a bone growth inducing material disposed within said hollow interior.

34. (Previously Presented) A fusion device for facilitating arthrodesis in a disc space between adjacent vertebrae, comprising:

an elongate body having a hollow interior and at least one opening in communication with said hollow interior, said elongate body being substantially continuously tapered along said

length and at least partially formed of a porous biocompatible material to permit bone tissue ingrowth into said elongate body, said porous biocompatible material being a composite comprising an open-celled substrate having interconnected porosity, said substrate infiltrated with a metal.

35. (Previously Presented) The fusion device of claim 34, wherein said open-celled substrate is a carbonaceous material.

36. (Previously Presented) The fusion device of claim 34, wherein said metal comprises a group VB metal.

37. (Previously Presented) The fusion device of claim 32, wherein said elongate body has a length and defines external threads extending substantially entirely along said length.

38. (Currently Amended) A fusion device for facilitating arthrodesis in a disc space between adjacent vertebrae, comprising:

an elongate body having a hollow interior and at least one opening in communication with said hollow interior, said elongate body having a length and defining external threads extending substantially entirely along said length, said external threads being circumferentially interrupted by a pair of oppositely disposed truncated side walls to define a pair of threaded arcuate side walls extending along said length and tapered along a substantial portion of said length, said at least one opening extending through a corresponding one of said threaded arcuate side walls, said elongate body at least partially formed of a porous biocompatible material to permit bone tissue ingrowth into said elongated body.

39. (Currently Amended) A fusion device for facilitating arthrodesis in a disc space between adjacent vertebrae, comprising:

an elongate body having a hollow interior and at least one opening in communication with said hollow interior, said elongate body having a length and including a pair of oppositely

disposed truncated side walls and a pair of arcuate side walls extending therebetween along said length and tapered along a substantial portion of said length, said elongate body at least partially formed of a porous biocompatible material to permit bone tissue ingrowth into said elongate body.

40. (Currently Amended) A fusion device for facilitating arthrodesis in a disc space between adjacent vertebrae, comprising:

an elongate body having a length and including a pair of oppositely disposed arcuate side walls extending along said length and tapered along a substantial portion of said length and adapted for engagement with the adjacent vertebrae ~~and, said elongate body including~~ a pair of truncated side walls extending between said arcuate side walls, said elongate body having a hollow interior and at least one opening in communication with said hollow interior and being at least partially formed of a porous biocompatible material to permit bone tissue ingrowth into said arcuate side walls.

41. (Previously Presented) The fusion device of claim 40, wherein said porous biocompatible material is a composite comprising an open-celled substrate having interconnected porosity, said substrate infiltrated with a metal.

42. (Previously Presented) The fusion device of claim 41, wherein said open-celled substrate is a carbonaceous material.

43. (Previously Presented) The fusion device of claim 41, wherein said metal comprises a group VB metal.

44. (Currently Amended) A fusion device for facilitating arthrodesis in a disc space between adjacent vertebrae, comprising:

an elongate body having a length and including a pair of oppositely disposed arcuate side walls extending along said length and adapted for engagement with the adjacent vertebrae, said

arcuate side walls defining external threads extending substantially entirely along said length and tapered substantially entirely along said length, said elongate body at least partially formed of a porous biocompatible material to permit bone tissue ingrowth into said arcuate side walls.

45. (Previously Presented) The fusion device of claim 44, further comprising a pair of truncated side walls extending between said arcuate side walls.

46. (Previously Presented) The fusion device of claim 44, wherein said elongate body has a hollow interior and at least one opening in communication with said hollow interior.

47. (Previously Presented) The fusion device according to claim 46, further comprising a bone growth inducing material disposed within said hollow interior.

48. (Previously Presented) The fusion device of claim 46, wherein said at least one opening extends through a corresponding one of said arcuate side walls.

49. (Previously Presented) The fusion device according to claim 44, wherein said elongate body has a substantially solid configuration.

50. (Previously Presented) A fusion device for facilitating arthrodesis in a disc space between adjacent vertebrae, comprising:

an elongate body having a length and including a pair of oppositely disposed arcuate side walls extending along said length and adapted for engagement with the adjacent vertebrae, said elongate body being substantially continuously tapered along said length to define a substantially conical configuration and being at least partially formed of a porous biocompatible material to permit bone tissue ingrowth into said arcuate side walls.